Editorial

As I take over as editor, I look forward to continuing in the direction that LCdr. Dave Parsons has taken the magazine: Looking for more theme issues and special features that have made Approach interesting, educational and thought-provoking.

I want to reaffirm that Approach is your forum. The magazine is at its best when fueled by first-hand experience. If you have ever had a near-miss or been a couple steps away from a mishap, pass the lessons-learned on to the rest of the aviation community. Write an article for Approach.

This issue deals with survival. While putting it together, one thing became obvious: It's impossible to cover all aspects of survival in one issue. Therefore, we've dealt with problems that are most likely to occur. This does not mean that they are the ones that aviators are most prepared to deal with. For instance, I know of four aviators in two separate ejections who elected not to wear their "bags" when the temperature was in the optional region. Fortunately, they ejected close to the carrier and were picked up safely by the SAR helo within minutes. Would the result have been the same had they ejected farther away from the ship? And what if you find yourself on the rescue end — are you ready to be an on-scene commander? Good maintenance provides up-jets day after day and can cause aircrew to feel mechanical problems are a thing of the past. Unfortunately, circumstances can arise that require exiting the controlled climate of the cockpit before the scheduled end of the hop. Why not move the odds in your direction?

Lt. Ward Carroll
Editor

inside approach

Vol. 34 No. 10

An SH-2 helicopter is shown hoisting a survivor from the sea. Photo courtesy of U.S. Naval Institute.

FEATURES

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Blue Water

On-Scene Commander

By Lt. Steve Burris and Lt. Bing Stickney

Take time to analyze the situation within your cockpit. Monitor your airspeed, altitude, power setting and fuel quantity. Set the throttles to max conserve and leave them alone for the moment.

TODAY isn't just a routine flight around the boat. Your wingman requests you join on him after he develops a problem with his aircraft. Before you can rendezvous, his aircraft departs controlled flight. He jettisons his canopy, and you see two flashes as he and his backseater eject. You feel an instant rush of adrenalin coupled with a little confusion, as you become the on-scene commander. Here are a few points of information that may help your squadronmates survive as you begin to coordinate their rescue.

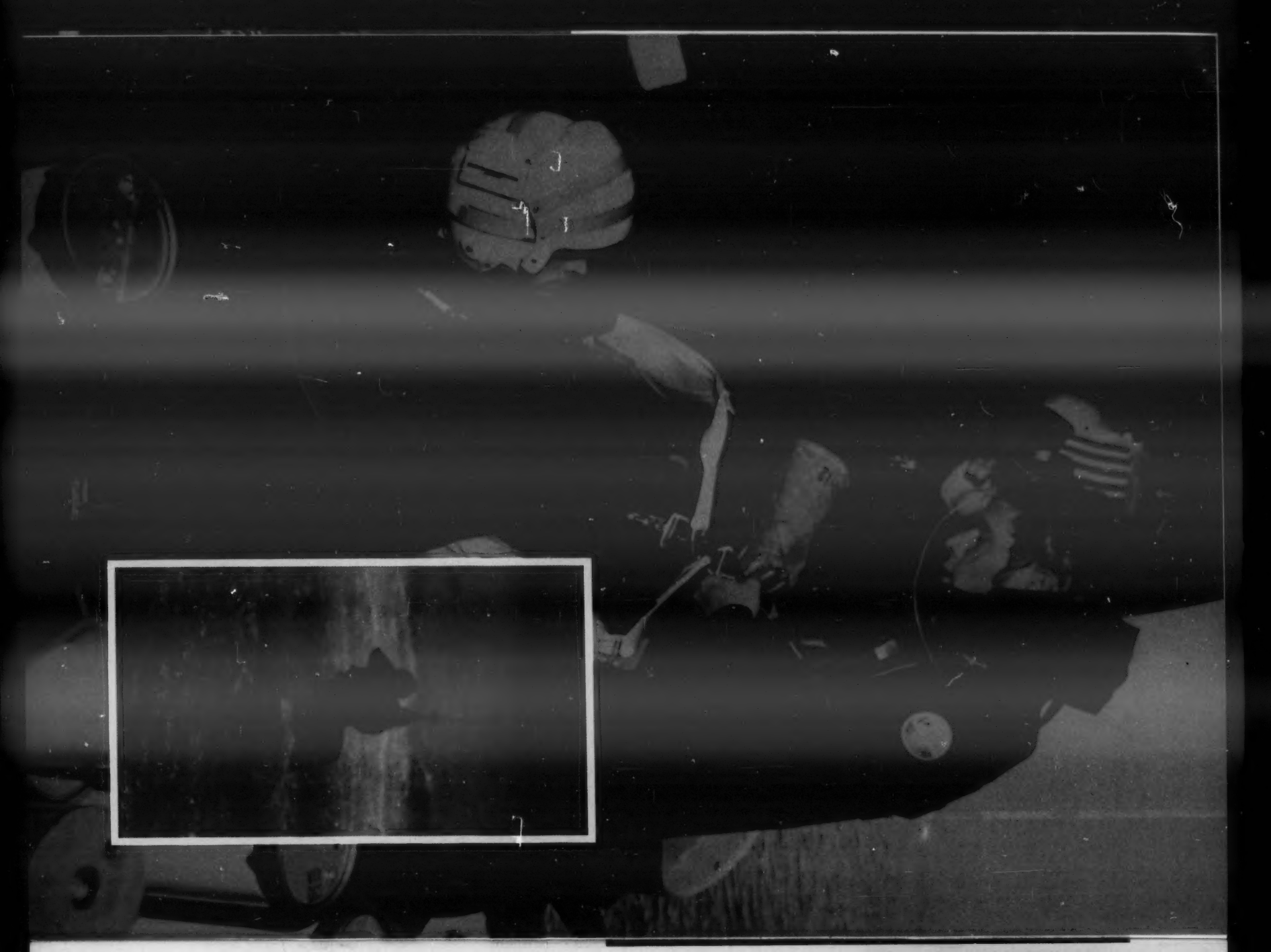
Immediately mark the location with every means possible. If you are operating in EMCON, broadcast the initial Mayday on Guard and request the carrier and escorts go active. Determine the radial and DME from the closest rescue TACAN. This may be a helo-equipped smallboy or the carrier. For INS aircraft, drop a waypoint and check the winds.

Now, vector the helo to the scene. If the ejection was close to the carrier, switch to land/launch (day/VMC) or departure (night/IMC), and broadcast the emergency.

"Boss, 201 is in the water. Mother's 300 for 25, two good chutes. Launch the SAR." The helo should hear this transmission and start heading toward the scene. Do not be surprised when you hear, "Say again. Is this an exercise?" Disbelief is a common initial reaction among all battle group participants. Keep your composure and clearly repeat the emergency, and ensure the helicopter receives a concise initial vector.

A flurry of questions will follow. Make sure to establish a common SAR control frequency. Strike is generally a common channelized frequency throughout the air wing and can be used.

Take time to analyze the situation within your cockpit. Monitor your airspeed, altitude, power setting and fuel quantity. Set the throttles to max conserve and leave them alone for the moment. Review your fuel ladder. If you are near the end of your cycle, you may already be on the ladder and should set your air-



Request that an S-3 be vectored to the site. It is ideally suited for low-altitude search, can remain on station a long time, turn well and can deploy flare markers.

speed to max conserve. Do not hesitate to increase your fuel ladder if you suspect the recovery will be delayed due to the SAR effort. There are several things that can delay recovery, including recovery of the downed aircrew, launch of additional SAR assets and out-of-limits winds as the carrier steams toward the crash site.

All these actions should require no more than 60 seconds, so be patient as you head toward the parachutes. If the crew ejected in congested airspace, such as in low holding, keep the area clear of other aircraft while the mishap crew descends.

Don't race toward the surface. Although the aircrew in the water might enjoy watching your aircraft make several low passes, your primary responsibility is to maintain a communication link. Remember that the goal is to remove them from the water quickly, and that operation can be directed much more easily from altitude. A high orbit in tactical aircraft provides more options that include lower fuel consumption, increased communication range, greater visibility to direct incoming rescue assets, and the ability to provide visual traffic separation. Request that an S-3 be vectored to the site. It is ideally suited for low-altitude search, can remain on station a long time, turn well, and can deploy flare markers.

Once the aircrew reach the water, if you have a second radio, switch it to 282.8 and monitor Guard. Initially, while an ejection seat is still falling, its ELT beacon will probably make Guard unreadable. However, on impact, the submerged ELT signal strength will be greatly diminished. Try to contact the crew to determine their status. The SAR coordination team will repeatedly ask that question. Ask for their patience and report any signals from the aircrew. Do not be surprised if radio communication is never established as there are many factors that can render the PRC-90 inoperable. Watch for smoke, flares or a sea dye marker. Pencil flares can be seen easily from 14,000 feet.

Another reason to refrain from descending to the surface in a continuous search pattern is the lack of visibility. In even moderate seas, a one-man raft is very small and almost impossible to spot at speeds as low as 220 KIAS.

Everyone involved in the rescue will feel a great sense of urgency, but there are constraints. Have patience as the helo begins its transit. A 50-mile vector takes only a few minutes for most tactical aircraft, yet the SH-3 operating near redline airspeed may take over 30 minutes. Use that time to continuously update your fuel ladder, the survivors' location and status. During the helo's transit, the ship will probably steam at flank speed. Don't be surprised to see a dramatic change in the TACAN position of the survivors.

At the other extreme, an ejection close to the carrier presents a severe hazard to the survivors in their chutes. The helo can be expected to vector immediately toward the oil slick at the aircraft impact site. If the aircrew ejected at medium altitude, their descent may be directly over the helo. Tell the helicopter to remain well clear until the crew enters the water.

It's time to leave when you're running out of fuel or because you've been directed to make a recovery. Don't delay your return. Your departure may come early in the rescue attempt, and you may not know the condition of your compatriots in the water. Draw on your initial training and do your absolute best to compartmentalize your thoughts. Divert your attention to your own recovery. You may be returning for a night trap that will demand your complete concentration and coordination.

We all hope that we will never have to be involved in a SAR mission. If you are, the Navy provides excellent training to help organize your thought process and reactions ahead of time. The next time your air wing goes to NAS Fallon, volunteer to plan and lead a strike rescue mission. The skills learned in combat SAR can prove invaluable anywhere in the world. Your actions may save your best friend's life some day. ◄

Lt. Burris and Lt. Stickney fly with VF-111 and have been on-scene commanders in three separate SAR operations.

Key Lime SAR

By Lt. Alex Bogdanoff

THE Hawkeye detachment so far could be described in one word: splendid. The airplanes were up, the workspaces were fine, everyone was settled in their quarters, and the liberty . . . well, Key West. I guess the only drawbacks were the unexciting operations. Looking for single low-flying targets (with illegal loads) in the late evening can be like finding a haystack in Miami. Anyone who has flown a zero dark thirty AEW hop in the E-2C will understand.

It was the third evening. Cottonpicker Two had just leveled out at 20,000 feet, 20 miles west of Canoa intersection, when we detected a target that fit the image. It was right on the deck at about 120 knots and heading north. "George Bush is gonna love us!" I thought. Almost simultaneously our copilot observed a red meteor distress flare rise from the ocean in the darkness. As mission commander, I had to make a decision along with the aircraft commander. The flare position was close to the target. The radar officer was coordinating the intercept, and if we were to drop down and look for the origin of the flare, the intercept would probably be lost. If we stayed at altitude, we could continue the intercept but would be unable to identify the source of the flare. Well, we chose the second course of action, but the pilot marked the position of the flare. We continued our way to station.

How could we disregard an international distress signal? The primary reason for the action lies in the capabilities of the Hawkeye. The radar coverage, communications capability (seven radios) and the ability to maintain the big picture are all reasons for remaining at altitude. To leave station and search low altitude only degrades the platform's effectiveness. Back to the story.

The Coast Guard was contacted through Key West base ops and told about the situation. Also, a radar search of the area turned up numerous surface contacts, but the closest was over five miles from the flare position. We finally got in direct communication with the Coast Guard Group Key West on an HF circuit. They informed us that a rescue vessel, the USS *Cape Fox*, was getting underway and should be in the area the next morning. No mention of aircraft or helicopters was made.

With the interception of the low flyer — which turned out to be a helicopter — and after noting an absence of search aircraft, we decided to depart station early to initiate a search for whoever fired that flare.

Aided by the last marked flare position and by a faint intermittent radar contact, we set up a low altitude search pattern. Subsequently, we saw two additional flares and a black shape in the water with what appeared to be a flashlight illuminating from it. All information including position continued to be passed to the Coast Guard. We were getting low on fuel, so were forced to return to Key West. En route we were relieved by a Coast Guard HU-25 Guardian.

The following afternoon Cottonpicker

Two's pilot and copilot were sitting at the end of Duvall street sipping some suds and watching the sunset, when none other than the USS *Cape Fox* pulled up to the pier. Noticing the presence of the news media, the two aviators spoke to the ship's OOD. He informed them that two survivors of a light civilian aircraft accident had been picked up at sea. Apparently the aircraft experienced fuel starvation and was forced to ditch. The survivors spent the night in a small raft on the open sea. During the night they had signaled an aircraft (Cottonpicker Two) and were subsequently picked up by the USS *Underwood* in the morning. Needless to say, the local press picked up on the story, pictures were taken, and the Navy and Coast Guard got positive front-page coverage.

The evolution reenforced some basics concerning search and rescue.

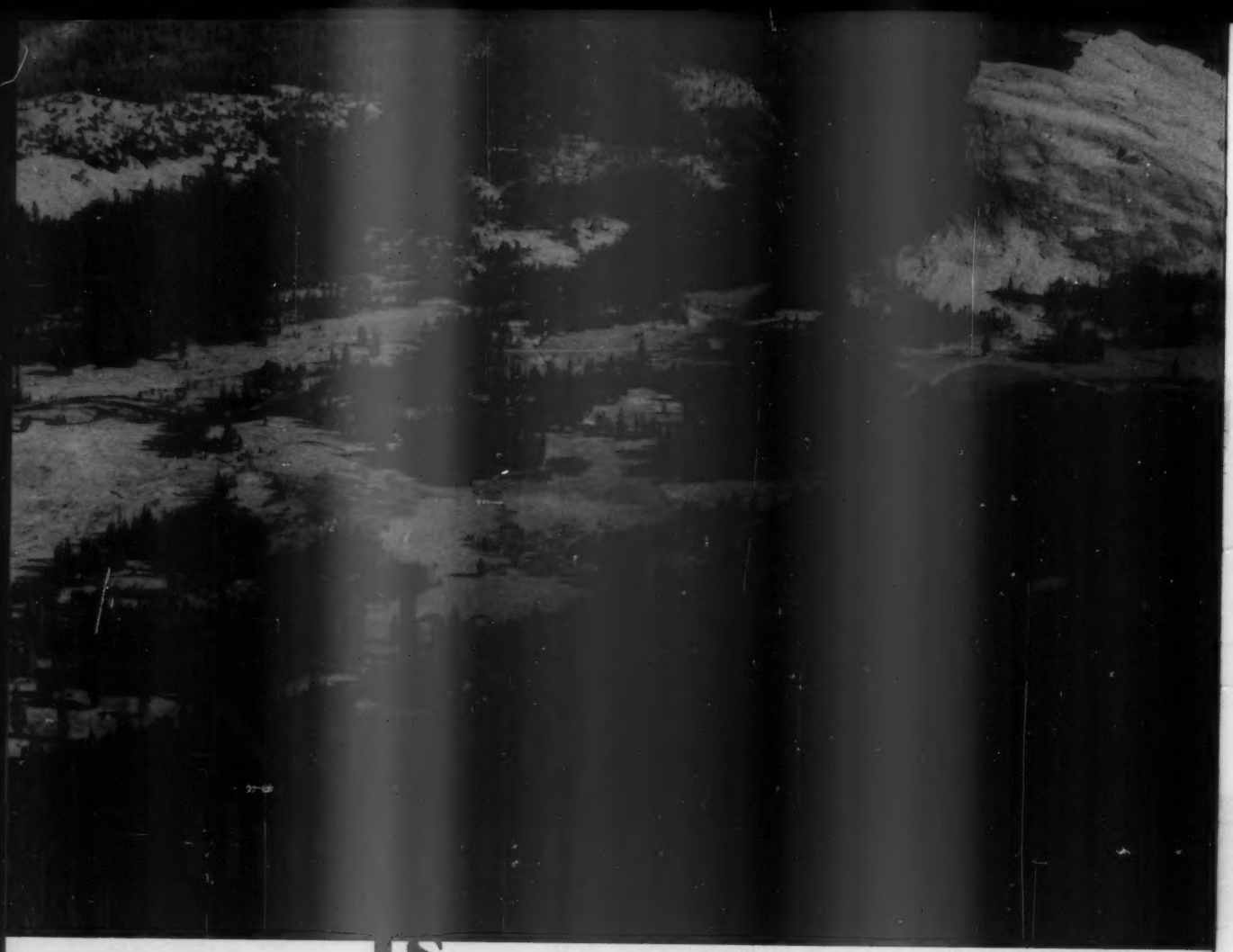
— Know the SAR assets for the Op area you are working; the type of rescue vehicles, base location and radio frequencies are all vital information.

— Before passing latitude and longtitude position, ensure your own navigation equipment is accurate.

— The Hawkeye is a valuable asset. It is important that it remains at altitude for radar coverage, communications and overall coordination of SAR assets. There's nothing more hair-raising than having multiple aircraft over the scene of a SAR without coordination on altitudes, radio communications and fuel states.

— As a last resort, the Hawkeye can be used to visually search a SAR area. Not only are much of the system capabilities lost, but cockpit visibility is poor. On a positive note, though, the aircraft has a long on-station time, and the radar is somewhat effective at low altitudes.

Lt. Bogdanoff is currently the ASO for VAW-88, the West Coast reserve E-2 squadron. He was an NFO instructor with VAW-110, the E-2C fleet replacement squadron, and also served with VAW-112 in USS *Constellation* (CV-64) and USS *Ranger* (CV-61).



Survival Is

By Lt. Kenneth D. Coburn

IT'S a cool, gray autumn afternoon. Isolated rain mixes with snow in the mountains — perfect Intruder weather! You roar down a valley at 200 feet and 420 knots. What a blast! Suddenly, something big and black flashes into view on the right side. Your A-6's radome explodes, and the right engine starts to unwind. You pull back on the stick and start to climb. Your B/N is yelling something, but you can't hear him because the cockpit is full of noise from the windblast.

You enter the overcast at 2,700 feet, and 10 degrees nose-up. At the same time, the right fire light comes on. The jet is slowly rolling left, and you can't stop it. You're about to ask the B/N what he thinks when, incredibly, he ejects. Looking back at the instruments, it takes a moment to realize you've rolled through inverted and are now 30 degrees nose-down with 70 degrees of right bank. In a panic, you grab the lower handle and pull as hard as you can.

Five minutes after you ejected and four and one-half minutes after you touched down, you're still sitting where you landed. It's raining and a hell of a lot colder here than where you took off. You don't know what to do, so you get out your little plastic bottle and take a drink. You get the other bottle out and drain that, too. You're still thirsty, but you can't get the 10-ounce can from your seat kit.

After a while, you get up to have a look around. It doesn't occur to you that rescue might not come until tomorrow. The pain in your lower back and buttocks is bad. Your left arm hurts, too, but you don't notice it's bleeding.

It's getting dark and a flashlight would help. It takes a while, but you finally find where you left your SV-2. Of course, the flashlight isn't there. It came off in the ejection. Strangely, the darkness is making you very uncomfortable. You shoot off a pencil flare, and the bright orange-red light makes you feel better. You shoot off another, then another. Your fingers are so stiff from the cold that you can barely work the thing. *When* is the helo coming? It slowly dawns on you that it's not.

Time to get ready to spend the night. In the darkness, you can make out a bright spot on the ground, your parachute. It's soaking wet and in a hopeless tangle. You want to make a shelter just like they taught you in survival school, but everything's fouled up. You can't see a tree to use, though you know they're all around; and your knife is in the SV-2, which you've misplaced again. It's stopped raining, so you don't need a shelter, anyway. After bundling up the parachute to make a soft spot on the ground, you lie down and drift off to sleep.

They find you 12 hours later, dead from exposure and shock. . .and stupidity.

Same story, from the B/N's viewpoint. You're blasting down your favorite valley on your favorite low level at the speed of heat. The weather is kind of marginal according to OPNAV, but you and your stick are both fully qualified for IFR low altitude flight. Besides, you've flown this low level so often you could do it without a chart.

You're settled comfortably in the valley center, with your face in the hood, when you hear a loud explosion and feel a searing pain in the right side of your neck. The right quarter panel has exploded into your chest and right shoulder. The plane is in a climb and rolling left when you ask the pilot, "Do you have it?" He responds with full right stick but doesn't say anything. As the A-6 rolls through 60 degrees, the right fire light comes on. You call to eject three times and pull the lower handle.

After you've been in the chute for 20 seconds, you see the tree. You're powerless to maneuver, and all you can do is brace for the impact. You hit the tree and the ground simultaneously, and end up in a heap of human misery. In a while, you feel like you can breathe again, and you stand up, thinking, "I can't believe I survived."

After shedding your flight gear, you take one step away from the tree and realize how cold it is. You put the g-suit back on and dig out the wool hat and gloves you keep zipped up in the pocket. A little warmer now, you sit down on your seat pan and try to decide what to do next.

Radio! Pull out your PRC-90, turn it on, and receive your seat pan beacon loud and clear. You secure the URT-33 and try Guard again. No response. You try 282.8, but, again, no luck. Now what?

Building a shelter is easy enough to do. The parachute is enormous, and you have plenty of shroud line. When you're done, it isn't pretty, but it keeps the wind and rain out.

Should you try to find your pilot? No, too many trees, and it'll be dark soon. Better stay put until he calls on the radio. You finally notice the pain now on the right side of your neck. There seems to be some blood. You fix it with gauze and tape from your seat pan's medical kit using the signal mirror to see.

It's raining, and every time the wind blows, the trees unload a deluge on you. You pull out one of the large plastic trash bags you packed in your SV-2 to make a rain coat. You're a lot warmer now, but still soaking

wet. Pulling the space blanket over you helps even more. You think of home and realize your wife is going to lose it when the skipper calls to say you won't be home for dinner. Getting a call out becomes top priority, and you start wearing out the transmit button on your PRC-90. "She's going to kill me for this," you think.

After a half-hour, with no luck, it dawns on you that you might be spending the night out here. Better try to fix a shelter. It's easy enough to do. The parachute is enormous, and you have plenty of shroud line. When you're done, it isn't pretty, but it keeps the wind and rain out. You inflate the raft and turn it upside down to use as a bed.

Inside, you've finished the Enerjets and are halfway through the Charms when you hear your name coming through on Guard. The transmission is weak and you try to answer, but they don't hear you. It's too dark in the tent to see, so you pull out a chem light and snap it on. On a hunch, you replace the PRC-90 battery with a spare. Now, they're loud and clear, and they hear you, too. Switch to 282.8; it's the XO and OPS in 506.

Tell them your status and approximate position. Will you be OK through the night? Yes, you think so. Have you heard from the pilot? No. OK, stay put. We hear his seat pan beacon on Guard, so he probably got out. The nearest road is seven miles over the ridge and down into the valley. If the weather clears, you can expect a helo in the morning, otherwise, the Forest Service will start out on foot at first light. Are you sure you can make it through the night? "Yes — but are there any bears around here?" you ask.

In true JO form, you don't wake up until 1000 the next morning. It's still raining, and someone is hollering from the ridge. You try to answer, but your voice isn't strong enough. Take a drink and give a good blast on your police whistle. Ten minutes later, you're eating a sandwich and drinking hot coffee. You made it. You survived!

Why did the B/N live and the pilot die? Simple. The B/N spent a little time and a few bucks preparing for the worst. The pilot probably hadn't given a thought to land survival since SERE school. We've all been told many times to plan for the unthinkable, to have a game plan ready before you find yourself in a survival situation. If you haven't done it yet, now is as good a time as you'll ever have.

Most of us know that we're allowed to pack up to 5 pounds of optional gear into our SV-2. But, before you think about what extra things you need, let's take a look at the equipment we already have.

RSSK-7		SV-2
nylon cord	MK 13 smoke	pencil flare
bailing sponge	sea dye marker	survival knife
space blanket	general pack	mirror
medical pack	—chiclets	whistle
—soap	—fire tinder	
—tape	—compass	MK 13 smoke
—water receptacle	—water bag	strobe
—insect repellant	—signal panel	shroud cutter
—aspirin	—mirror	PRC-90
—anti diarrhea pills	—razor knife	penlight
—bandaids	—tweezer and pins	
—eye ointment	—mosquito net	
—elastic bandage	—charms/Enerjets	
—iodine tablets	—metal match	
—radio beacon	—flash guards (red blue)	
—canned water		

Now, make a list of all the additional items you can think of that would help you survive in the various environments you fly in during the year. The list below includes some equipment you may want to consider adding.

	Feet Dry					Feet Wet	
	WINTER	SUMMER	DESERT	JUNGLE	HOSTILE	SUMMER	WINTER
wool hat	X						X
wool gloves	X						X
PRC 90 batt	X	X	X	X	X	X	X
extra H_2O	X	X	X	X	X	X	X
more extra H_2O			X	X	X		
compass*	X	X	X	X	X		
TPC/SERE chart	X	X	X	X	X		
sharp knife*	X	X	X	X	X		
chap stick	X		X			X	
sun screen*			X			X	
plastic trash bag	X	X	X	X	X		
sun glasses	X	X	X			X	
red chem light	X	X	X	X	X	X	X
green chem light	X	X	X	X	X	X	X
gauze roll	X	X	X	X	X	X	
insect repellent*		X		X			

* These items are redundant, but the added weight and expense may be worthwhile for equipment of better quality or proven effectiveness.

Now, make a list of the above equipment that would be useful in a majority of situations and tailor it to the operational environment. Acquire the stuff and with the help of your PRs, start incorporating it into your vest. Keep in mind that too many items in your vest will severely impede you in 5- to 6-foot seas. The PRs must tie the gear to the SV-2. Remember, the weight must be less than 5 pounds, and should be evenly distributed. For example:

In the SV-2, extra PRC-90 battery and extra water bottles; a compass, a good knife, two large plastic trash bags, two chem lights, gauze roll and waterproof matches.

In the g-suit pocket, sunglasses and a local area chart.

Next, list the remaining items in each category. Combine summer and winter feet wet and feet dry.

Winter (feet wet and dry): hat, gloves and chapstick

Summer (feet wet and dry): sun screen, chapstick and insect repellent

Desert: large water flask, chapstick and sunscreen

Jungle: large water flask and insect repellent

Hostile: large water flask and BIG gun

Package these things individually and clearly label them. Leave the packets with your flight gear. When you're ready to go on a mission, grab the one most appropriate for the main environment you'll be operating in.

Now, you're really ready for almost any survival situation. You might be very glad you took the time to prepare. ◄

Lt. Coburn is an A-6 pilot with VA-42. He is the squadron QA officer, and previously was Pilot NATOPS officer. His fleet tour was with VA-85. .

When working toward the solution of a problem, it always helps if you know the answer.

Ace L.

Water at NAS

Top: AW1 Daniel Hermany, an instructor with FASOTRAGRULANT, demonstrates how to properly use flotation equipment.
Bottom: A class takes the plunge in the helo dunker. The drum-like device flips over underwater, and the candidates must disconnect their safety harnesses and swim to the surface.

Survival Training Jacksonville

Story and photographs by JO2 Loren A. Barnes

You're strapped into the jump seat of a helicopter that has just crashed into the ocean. After impact, the helo rolls over and begins to sink. Lost in the darkened cabin, you have only moments to escape. Will you find your way out or will you panic; will you live or die?

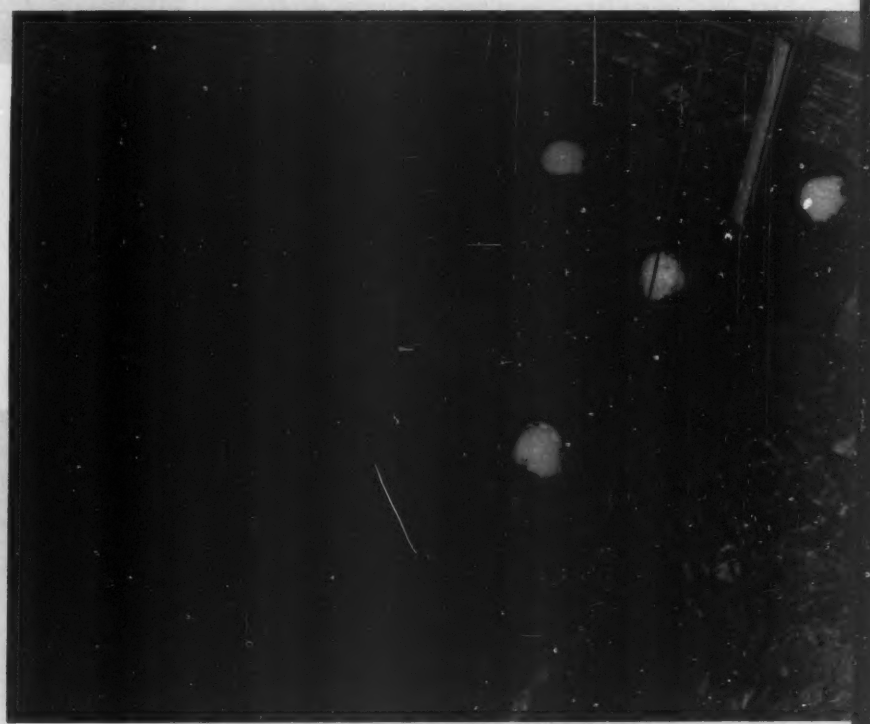
IF you've been through water survival training, you've faced this crisis in simulation, and your chances of survival have been greatly increased.

Naval Air Reserve Jacksonville, in cooperation with Fleet Aviation Specialized Operations Training Group (FASOTRAGRULANT), provides water survival training to drilling reservists one weekend a month. Until recently, reservists were trained only in basic survival techniques. The program has been expanded to provide more training on all the survival devices available to active duty personnel.

NAS Jax is one of only a few fully equipped survival training sites in the country. NAS Jax trains aircrews from all over the eastern U.S. and from all military branches, as well as civilian aircrews, such as air ambulance crews.

The intensive one-day course given to the reserves covers ejection procedures and survival techniques for both fixed-wing and rotary-wing aircrews. To become qualified, students must tread water for 15 minutes in full flight gear, successfully demonstrate underwater egress procedures, complete a 75-yard swim wearing flight gear, and pass a 40-question test.

The training begins with a morn-



After escaping from the helo dunker, the candidates make their way to the side of the pool.

Above: Aircrewmen must tread water for 15 minutes to qualify. Here, the candidates practice forming a circle to stay together after a ditching at sea.
Right: AME2 Dennis Riley, a water survival instructor with FASOTRAGRULANT, secures safety harnesses around MSgt. Roquemore, USMC, and AW2 Daryl Glass before they take a ride in the helo dunker.

ing of lectures covering personal survival equipment, the limitations of and use of signalling devices, and techniques for extended sea survival. Other topics range from parachute descent to underwater egress.

After lunch, the real fun begins with poolside instruction. The aircrewmen start out with a 75-yard swim with flight gear using the breast stroke, the back stroke and the side stroke. They then move on to the tower jump, a 10-foot leap from a platform into the pool with flight gear and boots. Then, the students tread water for 15 minutes.

After passing this portion, the class is ready for the training devices, including a parachute descent apparatus, which simulates a water landing where the parachute settles over the aircrewman. Afterward, there is a parachute drag across the pool during which the student must separate his parachute harness from the device. Next comes a shallow water egress demonstration using a helicopter emergency escape device (HEED).

The day's big event is a ride in the multi-placed underwater egress device, better known as the helo dunker. Students must make five escapes

Above: AX2 Jeffry Ostroff completes the parachute descent portion of the survival course. After leaping into the pool and pulling the parachute down over himself, he disconnected the risers and swam to safety.
Right: A water survival trainee completes the helicopter hoist portion of the course. After connecting the cable hook to his survival vest, he is lifted through a water spray simulating helicopter rotor wash to a platform 15 feet above the pool.

Cdr. John Miner of VP-62 is dragged through the pool. He must disconnect his harness.

from the dunker, two while blindfolded.

The FASO crew also teaches life raft organization. The students learn how to organize a survival effort while awaiting rescue. They learn to form a chain of command and delegate responsibilities for such things as provisions and signal devices. They also learn how to maintain and enhance morale.

AW1 John Meenan of HS-75, who helps coordinate the training program, says, "Keeping morale up is one of the main problems in sea survival. People lose hope and don't think anyone is coming for them."

"This is the first time," Meenan continues, "some of these guys have seen any of this. I see a big change in the way reserves view water survival training. We're now coming up to par with the regular Navy in our training program."

Aircrewmen are required to requal every four years and any time they transition from one aircraft type to another. For quota information, reservists should contact AW1 Meenan at HS-75. Active duty personnel should contact FASO DET JAX at Autovon 942-5366/3911, or commercial 904-772-5366/3911. ◄

Before taking the plunge, a survival student gives the OK sign. He is about to use the shallow water egress trainer (SWET). During this portion of the training, students also use a HEED device (air bottle) while swimming free of the SWET.

Where Is It?

By Cpl. Michael D. Gauthier, USMC

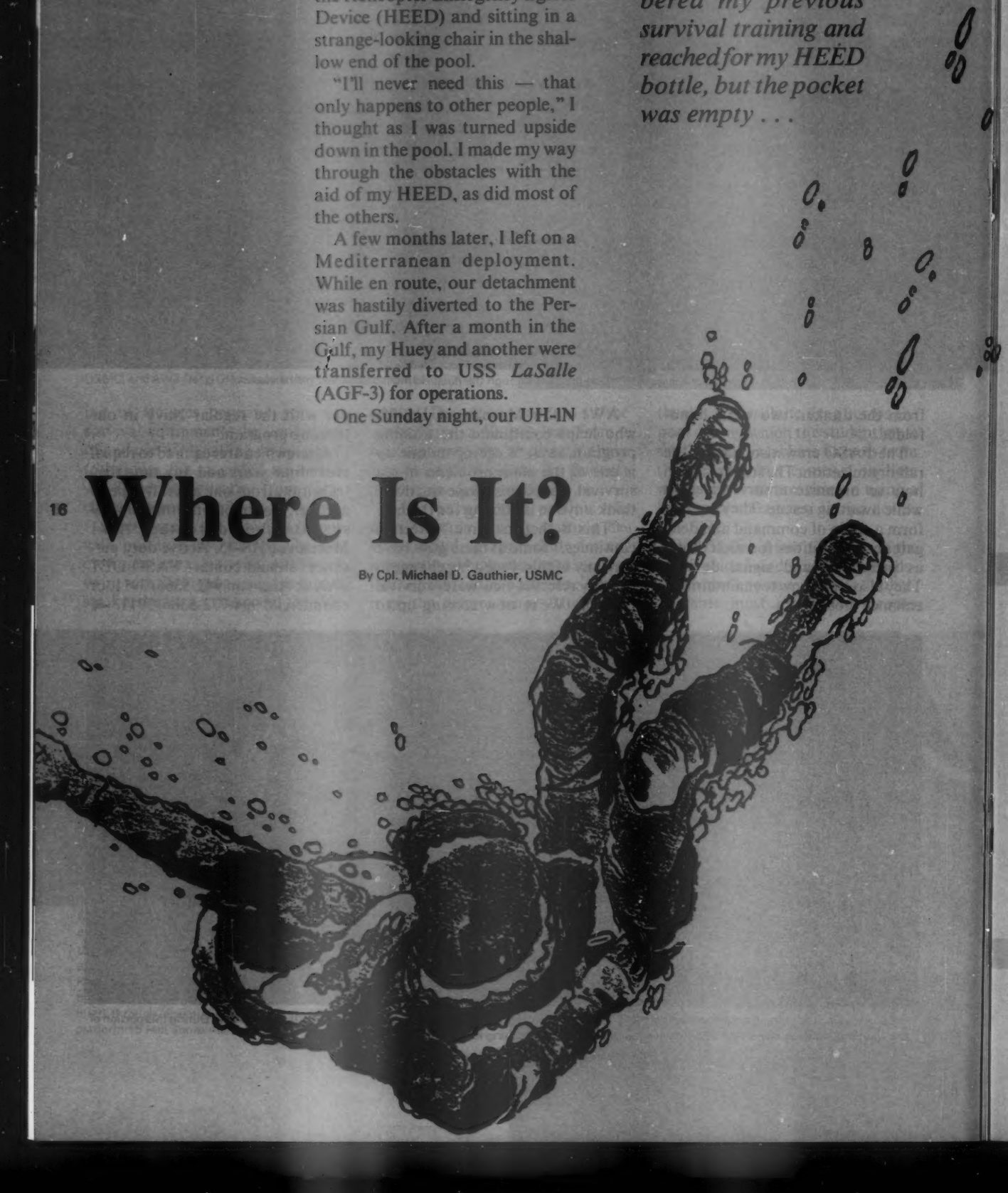
I REMEMBER the class on the Helicopter Emergency Egress Device (HEED) and sitting in a strange-looking chair in the shallow end of the pool.

"I'll never need this — that only happens to other people," I thought as I was turned upside down in the pool. I made my way through the obstacles with the aid of my HEED, as did most of the others.

A few months later, I left on a Mediterranean deployment. While en route, our detachment was hastily diverted to the Persian Gulf. After a month in the Gulf, my Huey and another were transferred to USS *LaSalle* (AGF-3) for operations.

One Sunday night, our UH-1N

. . . I then remembered my previous survival training and reached for my HEED bottle, but the pocket was empty . . .



with a crew of four launched on a night-vision-goggles gun shoot. After making several passes on our floating target, we completed firing our weapons and proceeded toward the ship.

Seconds later, we heard a loud bang in the transmission area. Almost immediately, the helo yawed violently. I heard the pilot say, "We're going in, we're going in!"

At that moment I thought I was going to be just another statistic on a chart somewhere. My heart was beating like never before. I instructed the other door gunner to get the seven-man life raft as I braced myself for water impact. Less that 15 seconds later, the Huey hit the water.

Trying to get a grip on what was going on, I released my gunner's belt and waited for the blades to stop turning. Water rushed in around my feet on the left side of the cabin. The rotor blades smacked the water surface, and the aircraft rolled on its right side. The sound of the splintering blades was enough to make a brave man cower. Almost completely on its right side, the helo began sinking rapidly.

I noticed my gunner in the center of the cabin and instinctively reached to pull him out of the left side of the helicopter. I tried to follow as I pushed him clear, but something snagged on the back of my SV-2 vest. I took my final breath as the aircraft became completely submerged. The aircraft was sinking fast. I could feel the flow of water past my body. The helo had rolled entirely inverted. I was upside down frantically trying to figure out what I was hooked on.

I reached behind my back and discovered that I was hooked on the DAS tube. I struggled with it for about 40 seconds; in that time, the aircraft sank nearly 40 feet below the surface. Suddenly I was free! I got my SV-2 strap off the gun mount and began to get a warm and fuzzy feeling. But was I free? No way. Now I could feel something pulling on my right. Was this nightmare ever going to end?

I had remained calm so far, but I started to feel that I could not go on much longer without air. My ears hurt from the water pressure, and my lungs felt like they were ready to explode. I then remembered my survival training and reached for my HEED bottle, but the pocket was empty.

"Where is it???" I asked myself as a rush of fear passed through my body. Then I recalled putting it in my cruise box back on the ship. I could have kicked myself for not wearing it. Panic swept through me, and I began to struggle furiously to free myself. Smashing my right elbow into something, I felt myself slip free from the sinking helo.

I could not see anything in the warm, black water, but it was great to be free. I pulled the beaded handles on my life vest and began rising to the surface. On the way up I told myself I was going to make it if I could hold on for just one more minute.

Finally I broke the surface. Then I vomited several times from the salt water I had swallowed. I found two other survivors nearby, and we soon inflated a life raft and crawled aboard. I ignited the night portion of my MK-13 day/night flare. Soon we were picked up by a boat from *LaSalle*. Our pilot was not recovered.

Had I worn my HEED, I could have reacted in a more efficient manner to an extreme situation and would not have come so close to blacking out. Ten more feet and I would not have made it out alive. My HEED would have given me more decision-making time and confidence. To this day and until my flying days are over, I wear a HEED every time a helicopter breaks the deck with me in it.

A HEED can make the difference between life at the surface or tragedy on the ocean floor. Don't get caught asking, "Where is it?" ◄

NAVAIR 13-1-6.5 directs that SRU-36/P (HEED) be worn by helicopter crew members during all overwater flights. — Maj. Rock Guthrie, USMC, safety analyst for H-1, H-53 and H-57 helicopters, Naval Safety Center, Norfolk, Va.

Cpl. Gauthier flies with HMLA-269, MAG-39, 2nd MAW, MCAS New River, Jacksonville, N.C.

Score One For

Hypoxia,

the Aviator's Constant Enemy

By Cdr. R. Bason, MSC

HYPOXIA, a decrease or lack of oxygen, continues to be a major hazard in aviation, despite improvements in oxygen delivery and pressurization systems, and extensive training. Every year, eight to ten incidents involving hypoxia are reported in naval aviation. In these incidents, the pilot or copilot recovered the aircraft and avoided a major mishap or fatality. We can only guess as to how many mishaps and fatalities have occurred as a direct result of hypoxia.

Two factors frequently combine to produce hypoxia: a faulty pressurization system and a loose fitting. Not wearing an oxygen mask is another cause. A recent mishap emphasizes the catastrophic effect of hypoxia and the importance of the correct use of oxygen equipment.

An A-6 launched on a night flyoff. As the aircraft cleared the flight deck, the pilot raised the landing gear and, as was customary, disconnected his oxygen mask's left bayonet fitting from his helmet. The B/N retained his mask until all radio communications had been completed and then, he disconnected the right bayonet from his helmet. Eleven minutes after leveling off at FL 240, the right generator failed. After several unsuccessful attempts to reset the faulty generator, the pilot secured it. Since a single generator failure is not uncommon in the A-6, neither crewman considered the failure a real problem and agreed to continue the flight.

Two to three minutes after the loss of the right generator, total electrical power was lost with a simultaneous rapid decompression, followed by a slight rearward canopy shift that resulted in increased ambient noise and cockpit air turbulence. The B/N immediately turned on his oxygen supply and reconnected his mask. He later said that it took him eight to ten seconds to attach the bayonet, and that he was beginning to feel dizzy. However, after a few breaths of oxygen, he felt better.

The B/N then tried to communicate with the pilot, but verbal communication was impossible without the ICS because of the increased cockpit noise. The B/N believed the pilot "fumbled" with his left bayonet fitting and managed to reattach the mask after the rapid decompression. The B/N did not notice the pilot reaching behind him to deploy the RAT, but remembered the pilot continuing to fly the A-6 with his left hand on the stick. No electrical power was restored.

After one-to-one and one-half minutes, the B/N saw that the aircraft was climbing at over 1,000 fpm and that the pilot was "fumbling" with the canopy switch, an action that seemed inappropriate and was useless without electrical power. The B/N used hand signals to tell the pilot to descend and deploy the RAT, but got no response as the aircraft continued climbing. He grabbed the pilot's oxygen hose at the mask attachment point and rotated the pilot's head around to see if the mask was attached on both sides. The B/N thought the mask was properly secured. The B/N also noticed that he could easily rotate the pilot's head in any direction without resistance. This submissive behavior indicated that the pilot was unconscious; his eyes were rolling with exaggerated blinking.

Finally realizing that the pilot was probably hypoxic, and with the A-6 passing 28,000 feet, the B/N took control of the aircraft by reaching across and pushing the stick forward. After a few seconds, the Intruder began a slow roll to the left and entered what appeared to be a left-hand spiral. The B/N's attempts to level the

aircraft resulted in his becoming spatially disoriented, attributed to the horizontal rotation of the ground lights and the tumbling, unreliable VGI. At 14,000 feet, unable to recover the aircraft, the B/N struck the pilot three times on the chest and motioned that it was time to eject. The pilot sat motionless with his head back, with no response.

The B/N considered ejecting his pilot, but they had decided against such action in previous discussions; and the B/N rejected this option. He then punched the pilot's leg three times, their prebriefed loss-of-voice ejection signal. At 10,000 feet, the B/N pulled the lower ejection handle. The pilot did not eject, and the A-6 hit the water.

This mishap would have been easy to avoid. The pilot should have worn his oxygen mask from takeoff to landing as required by OPNAV 3710.7L. From the onset of the emergency, he should have activated his oxygen delivery system, secured his mask, deployed the RAT, maintained level flight or descended, reset the generator and closed the canopy. He did not accomplish any of these tasks. After examining all the possible causes of the A-6 pilot's incapacitation, the board concluded that it was caused by hypoxia.

Immediately before the rapid decompression, both crewmen were breathing ambient air. After the decompression, the B/N correctly activated his oxygen. But the pilot directed his attention to his aircraft instead. He could have deployed the RAT or try to reset the generator. He made the worst possible choice: restoring canopy integrity. It is hard to accept that an experienced aviator made these mistakes.

Even at the highest altitudes, effective performance time (EPT) or time of useful consciousness (TUC) should be 12-15 seconds, the circulation time for oxygen-deficient blood to travel from the lungs to the brain. The failure of the crew to take any appropriate action strongly suggests that there was no effective performance time at the time of decompression, and that incapacitation began before the rapid decompression. There was probably a partial loss of cabin pressure before the decompression.

The mishap board concluded that when the right generator fell off-line, a transient electrical failure occurred, causing the canopy switch to drop to the neutral position. This resulted in hydraulic pressure being dumped from the canopy actuator, allowing the canopy to open slightly or at least reducing the effectiveness of the canopy seal. In the three minutes after the electrical failure, cabin altitude climbed slowly and without the crew knowing it. At the time of the decompression, the crew was decompressed from some intermediate altitude (i.e. 10,000-20,000 feet) and already had developed some incapacitation from hypoxia.

Effective performance time would, therefore, be less. Why was the pilot more susceptible than the B/N? From our training, we can only speculate. Considerable variation exists from person to person, and in the same individual at different times. Many other factors can affect a person's EPT, including fatigue, lack of sleep, health, anxiety, stress, nutrition, age and motivation.

One action that was not considered by the B/N might have averted the mishap. The B/N correctly suspected hypoxia. Whether the pilot has a secure mask or not, the B/N can reach over and attach both sides of the pilot's mask. However, he is unable to reach the pilot's oxygen switch to turn on the oxygen supply. The B/N does, however, have an easy reach to the pilot's seatpan emergency oxygen supply. By pulling the green apple, he could have ensured oxygen flow to the pilot. The B/N, as well as other crewmen asked, said they would not have thought of this option. Perhaps there should be a renewed emphasis during physiology training on the use of the emergency oxygen supply.

This tragic mishap again reminds us of the insidious nature of hypoxia. The loss of life could have been prevented if the pilot had worn his mask. The aviator has only three safeguards against hypoxia: cabin pressurization, supplemental oxygen and physiology training. As can be seen from this mishap, the first two methods are less than foolproof, which leaves the detection of hypoxia and immediate corrective action as the most important ways an aviator can avoid becoming a mishap statistic. ◄

Cdr. Bason is head of the Aviation Physiology Branch of the Naval Safety Center.

If anything can go wrong, it will.

Ace L.

The Big Disconnect:

Fanning the Flames Over ALSS

By LCdr. James D. Coulson

I JOINED the Martin-Baker "I Survived the Ride" GRU-7 ejection club in December 1984. Since then, I have eagerly read articles on survival and ejection seat summaries. The October 1986 issue of *Approach* was dedicated to ALSS and ejections, as were the issues for July and November 1988. I read and read — and saw red. LCdr. Parsons hit it right on the head in his editorial for the October 1986 issue. He said, "We really have a problem when it comes to flight gear, and few people seem to be happy. Flight gear is something aviators really care about. When they start talking about it, the discussion gets very passionate and personal."

Ask anyone who has survived the ride if he is ambivalent about his gear or its shortcomings, and I'm sure he will tell you more than you ever wanted to know about what didn't work and what went wrong. Unfortunately, as several articles in *Approach*[1] pointed out, nobody seems to be talking, or *listening*. Now that we have all these "perspectives" out in the open, perhaps all the groups concerned can learn from each other. There are very important facts to be learned from a discussion of ALSS.

First, the aviator will always resent being told what wonderful things are in store for him "a few years down the pike." *If* we can get the money to develop them, *if* they work, and *if* the contractor can meet his commitments. When your butt is on the line, graphs and linear cooling rates generated by "40-pound heads" aren't very comforting.

Looking for day-to-day examples? Have you ever been issued a pair of quick-lace flight boots only to have to turn in the eyelets and lockslide because they produced FOD? How about the "wiz-bang" CWU-72P liner for drysuits? It was due in the fleet by October 1986. In December 1986, AIRPAC representatives said there might be a two-year delay because the low-bid contractor failed to deliver on time.

To date, not one aviator in my squadron has been outfitted with the liner. Heavy financial performance penalties should be included in all ALSS contracts. If a contractor deliberately underbids, or can't meet his deadline, the money from the penalties could be used to obtain commercially available alternatives. For example, commercial thinsulate underwear, such as that available to hunters, could fill the CWU-72P shortfall. The commercial underwear could be topped with the current aramid underwear to make it fire-resistant.

In the article "Wet Suit vs. Dry Suit" in the October 1986 *Approach*, Mr. Tran and Ms. Reeps described a February 1979 CNO operational requirement for cold-water exposure protection. We are now in 1989, and still looking for a solution. While 10 years might be an acceptable delay in the procurement arena, a whole generation of aviators has come and gone in that period. The low probability of ejections mentioned in the article disappears in combat. Can we truly say we are ready to eject in NORPAC/North Atlantic during combat and have a reasonable chance of survival? Indeed, sometimes it seems as if the ALSS program was geared to fight the last war. Ever try to get a winter seatpan for your A-6 or EA-6B at Whidbey or Norfolk? There's plenty of sun screen and mosquito netting available, though. The Canadian and USAF have specific seat kits for the tropics and arctic. Why don't we? Shipboard AIMDs should be able to repack the kits as necessary.

A second point is to get the engineers into the field. Put the man and the equipment into the cockpit for each model of aircraft. Bulky chemical warfare suits, night vision goggles that break your neck if you eject while wearing them, or dry suits that tear easily are just a waste of taxpayer's money; aviators won't use them. In the period of austerity, every piece of flight gear has to be "human-factor" engineered to make sure it fits and works right the first time.

Finally, get with the spirit of paper work reduction. Allow the fleet to generate new ideas, procurement requests, and ALSS programs on a Beneficial Suggestion or "Fleetip" format, and route them through the local AMSO. Demanding specialized paper work invites neglect. Once the Benney-Sugg reaches the AMSO, the appropriate request forms could be generated. An added benefit to this idea would be centralized tracking and coordination for ALSS problems in the air wing. The increase in duties for the AMSO would be minimal, and division officers and department heads would be more likely to submit the proposal. A response from the cognizant authority, like those issued for "Fleetips," would provide positive feedback to the person who submitted it that his idea received attention, rather than disappearing into a black hole.

There are lots of good ideas being discussed in ready rooms. With a little give and take on both sides, we can get those ideas out of the bull sessions and into production before another generation of aviators goes by.

LCdr. Coulson flies with VAQ-136.

[1] "A Fleet Perspective" and "A Rigger's Perspective" (July 1986); "Wet Suit vs. Dry Suit" and "The Total Perspective" (Ocotber 1986).

Surprise At 12 O'Clock High

By Lt. Bob Lineberry

About one mile out, I see quite a stir in the water and what seems to be someone, or something, on the surface. We change course while dumping fuel to get down to hover weight.

GRAPENUTS in the autodog. What a great idea. It really hits the spot after the cold-cut lunch, especially here in the Gulf of Oman where the OAT gauge often screams above 40 degrees Celsius. (For the uninitiated, an "autodog" is a soft ice cream dispenser — Ed.)

Now, I'll make my way to the ready room for an 1145 brief, followed by a three-hour ASW/PG, a typical event after 60 days here on Beno Station. During our thorough brief we discuss our plans for SAR training and procedures for an ever-possible real-world SAR, just in case one of our fixed-wing bubbas takes a swim.

It was just two short weeks ago when I was called on to rescue a downed aviator at night, so I had some real SAR experience. After reading the aircraft discrepancy book, punching the charts, preflighting our equipment and filling our water bottles, we settle down in nice ready room chairs, to wait.

The squadron duty officer calls out, "610 inbound for landing."

I collect my crew and head above for a hot-pump, crew switch. After a crew passdown, the aft station reports, "Pilot, hoist, and hoist ICS checks good. Eight buoys, eight smokes and a full complement of SAR gear." The fuel hose is hooked up, and we top off at 4,500 pounds.

"Let's get going," I say, "the longer you sit, the hotter you get." Besides, it's the end of the month and I need the flight time.

"Control, 610, four souls, kilo A, request checks." The controller is such a great guy, always there when you need him.

"610, you're sweet, sweet."

Well, how special. There we are, sweet and too heavy to hover. What's a Sea King to do? Well, how about dropping a couple of buoys to see how the new aircrewman handles ASW? Then, we'll do a plot stab up front. It's a great way to burn up gas and time on plane guard duty.

"Good line on buoy 1. What do you have on buoy 2?"

Suddenly, an ELT transmission gets my attention. Hearing the beeper is a real eye-opener. Before I could get a radio set up for a point to the beeper, there's a call on tower frequency.

"Aircraft down on mother's 340 at nine miles."

My trusty copilot immediately turns left to set up a

point-to-point, probably his first one since flight school.

"Rig for rescue. We have an aircraft in the water," I tell the crew. They scamper from their sonar seats to the after station as I reach down for the checklist.

"610, Control, aircraft 202 down, your vector 350 for 11 miles."

"610 copies."

Once again, I'm impressed by how our controller is on top of the situation with his fast response. My copilot sets up a perfect point-to-point, and then all we have to do is get there and pluck those fixed-wingers out of the water.

Tower comes up and tells us about the SAR we're already going to, and we reply we're already inbound. A daytime SAR, vectors, fixes, what else could an aircrew need?

"Pilot, after station rigged for rescue." Music to my ears. Now, we're all set.

"Control, update vectors."

"Roger, 357 for eight miles." I've completed the checklist, we're rigged for rescue and on our way to datum.

"Sir, I have something in the water at 3 o'clock." About one mile out I see quite a stir in the water and what seems to be someone, or something, on the surface. We change course while dumping fuel to get down to hover weight.

"610, switch up Strike."

"Roger, switching."

"Black Knight, 610 is up," I call.

"Roger, aircraft 212 is the on-scene commander." Once over the disturbance, just one 360-degree turn is enough to make the assessment that this is the final resting place of Black Knight 202. The on-scene commander in 212 is circling overhead.

"212 has chutes in sight."

"212, 610, need a steer to the chutes."

"Roger, come right to about your 2 o'clock, three to four miles."

"Roger, inbound." As we turn to steady up on our final vector, both of us peer out into the water for two chutes, flares or smokes, something to mark the survivors' positions. Several moments pass, with nothing in sight. Visibility is at least 10 miles, and the sun is behind us. Still nothing.

"212, do you still have the survivors in sight?"

"Roger, 610, on your nose for two miles at 1,000 feet."

At 1,000 feet? He must mean *above* us. But this is an aircraft that went down five or more minutes ago, and the pilot and RIO are not in the water yet? Could they still be in their chutes? Impossible, I thought, but maybe not.

Extending out of my seat, I look up through the windscreen to get a better view of the survivors, their rafts or chutes. To my surprise, the pilot and RIO are descending through 700 feet, not sitting fat, dumb and happy in their rafts waiting for pickup.

We now turn left to clear the area and make sure we are out of the way while they enter the water. Once the chutes are finally in the water, we maneuver into a manual hover to jump the swimmer. He takes charge and removes the shroud lines and prepares the survivors for the trip up the wire. In the afterstation, both crewmen work hard to ensure the F-14 crewmen are comfortable and uninjured.

Once we have both survivors aboard — in excellent condition — we return to the carrier. I can't stop thinking about what a surprise it was to be notified that the aviators were above us throughout the entire search.

Expect the unexpected. Looking back, I should have thought to ask at what altitude the aviators ejected. Then, I could have calculated the splashdown point, as well as get an idea of the time needed for their descent.

The on-scene commander should have made sure I was aware of the entire situation before directing us toward the area. The rescue aircraft needs to keep its distance, visibility permitting, and allow the crewmen to make their water entry without distraction. ◄

Lt. Lineberry is an H-3 pilot with HS-4.

Shoe by Jeff MacNelly

Left to right: AT2 Kenneth Decker, Lt. Mike Palmer, Ltjg. Revone Bauwens. Not pictured: AEC Jim Clay, AD3 Faith Schroeder

Lt. Mike Palmer
Ltjg. Revone Bauwens
AEC Jim Clay
AT2 Kenneth Decker
AD3 Faith Schroeder
VR-22

The C-130 was scheduled for a cargo-transport mission from its home base at NAS Rota, Spain, to Tel Aviv, Israel. Besides the crew of five, two trainees and 19 passengers were on the manifest.

The takeoff checklist — including a pilot/copilot flight controls check — was completed, and the Herk made an IFR departure. When Lt. Palmer (aircraft commander) leveled off and tried to make a correcting port turn, he found he could not move the yoke to the left beyond wings level. Ltjg. Bauwens (copilot) tested her control yoke and confirmed the problem.

Lt. Palmer reduced airspeed, and Ltjg. Bauwens made a hydraulic systems check while AD3 Schroeder (loadmaster) checked reservoir quantities and leaks in the cargo compartment. No hydraulic failures were found, and the crew continued to try to locate the source of the flight control problem. AD3 Schroeder, AT2 Decker (radio operator) and AEC Clay (flight engineer) visually checked for flap and aileron binding through the cargo compartment windows and inspected all visible cables associated with the ailerons.

With all NATOPS procedures exhausted, Ltjg. Bauwens notified air traffic control and requested a 180-degree right turn back to the field. GCA was informed of the emergency and was asked to align the C-130 left of the GCA centerline so that the pilot wouldn't have to make any left correction on final.

Lt. Palmer had practiced a similar emergency at the Lockheed simulator and had been impressed with how hard it had been to fly the aircraft with the loss of flight control. When he returned to the squadron, he discussed the situation with other aircraft commanders and then practiced flying the aircraft using differential power and rudder to make turns, to control airspeed and to control altitude. This self-initiated training paid off as Lt. Palmer made a flawless 180-degree turn, approach and landing; the GCA was called by AC2 David Scharlau. To avoid using ailerons, normal procedures were altered on touchdown, and nosewheel steering was used immediately. The rollout and taxi were uneventful.

Postflight inspection revealed that a quadrant retainer nut in the

aileron boost package had fallen off, allowing the cable clamp bolt to back out. The position of the bolt on the quadrant, relative to a fixed guard, was such that any attempt to make a left turn caused the bolt to hit the fixed guard and prevent rotation to the left. Several other nuts on the quadrant were also found to be loose. The maintenance history revealed that the boost package had been removed and replaced twice. All other squadron aircraft were inspected, but no other aileron problems were discovered.

If either of the two pilots had tried to force the yoke to the left, the loose bolt could have wedged between the quadrant plates, making it impossible to move the yoke in either direction. This problem could have left the aircraft in a hard left bank from which recovery would have been extremely difficult.

This crew's coordination and airmanship averted what could have been a loss of 26 lives and the aircraft.

Lt. Andrew Butterfield
Lt. Chris Kiergan
AW3 Chris Maquera
AW3 Bill Holden
HS-7

Dusty Dog 613 launched from USS *John F. Kennedy* (CV-67) on a moonless night. After the first dip, the SH-3H Sea King was established in a second dip when AW3 Holden reported a problem in raising the sonar. Lt. Kiergan (copilot) immediately noted that there was no utility hydraulic pressure and lowered the landing gear handle. The gear did not move. Petty Officers Holden and Maquera started a DC-motor recovery of the sonar dome and monitored its progress as it cleared the surface. While he tried to seat the dome, AW3 Holden noticed sparks out the right crewman's window. At that point, Lt. Butterfield (HAC) broke dip to analyze the problem.

With the landing gear stuck in the "up" position and no utility hydraulic pressure, the Sea King was picked up by approach for vectors to the carrier. Other cockpit gauges read normal as the helo established a 20-foot hover over the deck. Use of the pressurized, emergency gear-lowering system resulted in lowering the right landing gear, with the left gear remaining in the full "up" position. Collective pumping could not dislodge the gear, and the gravity release lever would not move. Deck personnel could not lower the gear, either.

The crew decided to land the helicopter with the left gear retracted, using a dolly and mattresses to support the left sponson. Lt. Kiergan took the controls to maintain position over the dolly and slowly lowered the helo to the dolly support for a night, single-gear landing. He slowly decreased power and smoothly applied the rotor brake to keep the aircraft from sliding off the support.

Postflight inspection revealed that the utility hydraulic pump had frozen, which had subsequently sheared the shaft gear teeth. This problem had caused the loss of pressure to the utility hydraulic system.

Left to right:
AW3 Chris Maquera,
Lt. Andrew Butterfield,
Lt. Chris Kiergan,
AW3 Bill Holden

Left to right:
LCdr. Dave Goulette,
LCdr. Gary Hentz

LCdr. Gary Hentz
LCdr. Dave Goulette
VA-0686*

After completing a post-maintenance check flight (PMCF) profile on a VA-42 A-6 Intruder, LCdr. Hentz (pilot) and LCdr. Goulette (B/N) were conducting pop-up attacks on an offshore bombing target. As they were inverted at 1,500 feet, pulling downward to the target on their sixth and final run, the aircrew heard two muffled explosions in rapid succession. LCdr. Hentz immediately retarded both throttles to idle. Instantaneously, while the aircraft was rolling upright, the left engine fire light illuminated. LCdr. Hentz secured the left engine without delay, and, while performing NATOPS boldface procedures, he brought the right throttle up and began a climbing turn toward the coastline.

After considering their landing field options, the crew proceeded to NAS Oceana rather than risk a single engine approach to nearby Elizabeth City Coast Guard Air Station due to the shorter runway, lack of arresting gear, and time required to dump fuel to single-engine landing weight. LCdr. Goulette informed the squadron Operations Duty Officer and approach controllers of their emergency, and LCdr. Hentz executed an uneventful straight-in single-engine landing at NAS Oceana.

Postflight inspection revealed a catastrophic failure of the left engine turbine diffuser case, resulting in a ⅞-inch separation around the complete circumference of the engine. The subsequent explosions from the exhaust gas blew off the middle and aft engine bay doors, resulting in damage to the horizontal stabilizer and two bomb racks under the port wing.

LCdr. Hentz' and LCdr. Goulette's quick response to the critical situation in a critical phase of flight saved a valuable asset.

*VA-0686 is the Reserve Squadron Augment Unit for VA-42.

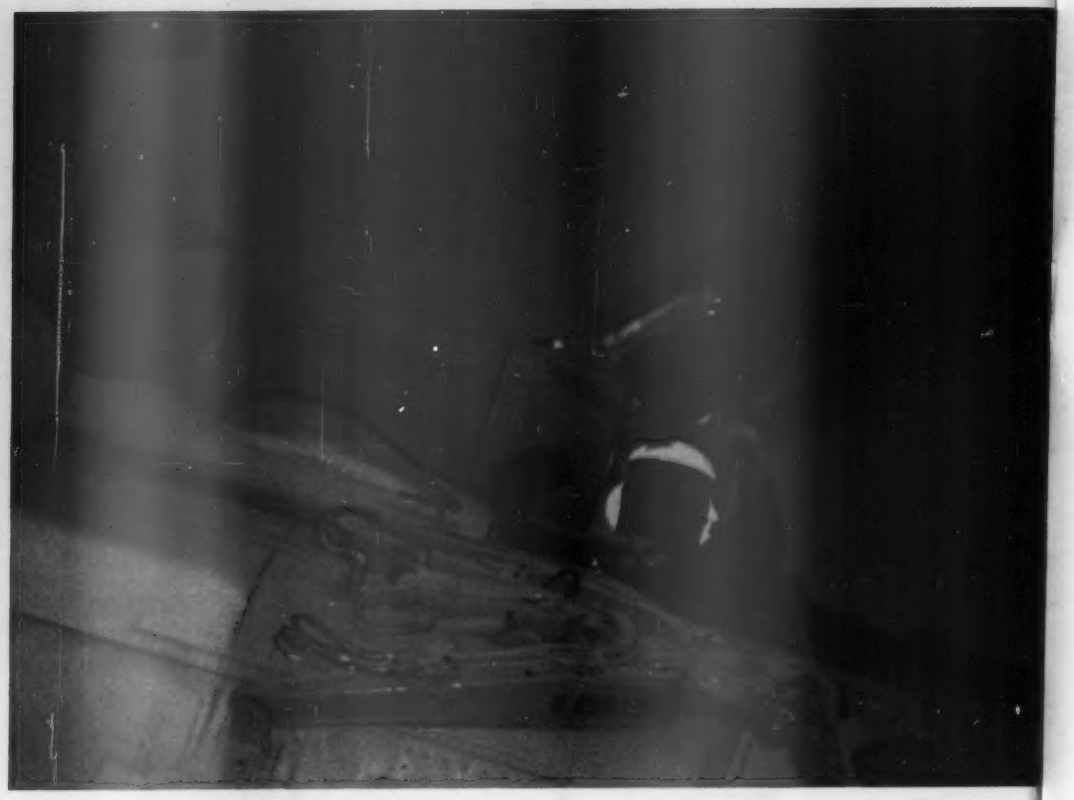
Lt. Douglas L. Bandy
Ens. Chris A. Blow
VT-6

Following several aerobatic maneuvers, Lt. Bandy and his student tried to reduce power in their T-34C with no success. After cycling the power lever, Lt. Bandy correctly analyzed the problem as uncontrollable high power, and began a climbing turn toward home field. He informed approach control of his situation. Ens. Blow confirmed that all other engine parameters were within operating limits.

Lt. Bandy decided to continue the climb toward home field with both pilots monitoring the instruments for secondary indications that might require a divert to an outlying field. Lt. Bandy and Ens. Blow reviewed NATOPS procedures for an uncontrollable high-power condition, and upon reaching 7,500 feet MSL, they secured the T-34C's engine. Lt. Bandy flew a precise emergency landing pattern to a dead-engine landing.

Postflight investigation revealed a defective fuel control unit. ◄

Left to right:
Lt. Douglas C. Bandy,
Ens. Chris A. Blow



Where Were You When the SAR Went Down?

By AWH2 Mark P. Robinson

"Man the man-overboard recovery detail!" That's all they said.

"What happened?" I asked myself as I ran to the hangar. Someone said something about the Duck (the logistics H-3). The adrenaline started to kick in. When I got to the flight deck, Odie (the det's H-2) was in a doppler hover with its hook in the water. That's all it took.

I got my gear and started to strip. Our AZ helped me, and by the time Odie landed, I was ready. The H-2 had picked up the two crewmen. "How many souls on

board?" I wondered.

"Somebody get a stretcher," a crewman yelled, "This guy's busted up. I just looked at him."

Gear's up. My pilot calls, "There's the body. There's the other two. Get the hoist ready!"

Off with the helmet, ready to go. Tap! Belt's off. This is it! Tap, tap, tap. Gee, we look kinda high. I look for the gauge. Can't see a thing. I look at my dry guy. Thumbs up. Tap, tap, tap. I look down at the two in the water. They look like they're pleading, sooo-oo . . . So that's what the top of the signal bridge looks like.

I wonder how high my splash was. I'm OK; the guys in the helo know it now. I fix my stuff and swim over to the survivors. One guy's in great shape, the other — not so great. I send one up in the sling, the other — I think his back is hurt — I try to get to the ship. But the current is against me, and the ship isn't as close as I originally thought. I signal the helo back in for a pickup, and send the second survivor up alone.

Odie's gone and now the ship is suddenly close. Might as well have them pick me up, too, which they do. Once on deck, I see blood and sea dye marker at my feet. I guess the ship got one, too. I make my way to the hangar. Odie is out there searching some more. I'm in a daze. There are people all over the place, corpsmen, uninjured survivors, sightseers. There are stretchers and half-used dye markers, too. By the time Odie gets back, I've rinsed off any JP-5. We gas up, swap pilots, and take off again. But that's it. We search the rest of the night, but don't find any more survivors.

The guy in the back needs to see how high 10 feet is just as much, if not more, than you. After all, he's the one who's jumping!

Fortunately, everyone we picked up did survive. One of the passengers got out with just a scratch. He keeps saying how glad he is that he paid attention to the passenger brief. He also keeps telling me, "Yeah, you're the one. That was a great jump!"

With any SAR, the urgency is *real.* Lives are at stake. There are almost always injuries, and someone could be fish food if *you* are unprepared.

Where's your SAR gear when you're on cruise? What condition is it in? Does the Frost fitting work properly? Can you get to it at a moment's notice? (The Frost is similar to a koch quick-release fitting and connects the SAR crewman to a survivor. — Ed.)

And you, Lt. Stick, do you know what to do other than hope it's daytime? How do you tell your man in the water you've lost sight of him at night? What about the motor whaleboat? How do you tell him you want him to make the pickup? When was the last time you practiced dopplers like they were real? You know, come in 10 and 10, go through all the NATOPS calls: "Stand by to deploy swimmer. Jump! Jump! Jump!" The guy in the back needs to see how high 10 feet is just as much, if not more, than you. After all, *he's* the one who's jumping! As the NATOPS warning says, "It is extremely difficult to accurately judge height above the water." You've got the gauge. Not him. Take it from me, it is *very difficult.* I survived, but it could have made a bad situation worse.

Aircrews, take time to go over what you would do. When is it not pink enough to jump? Swimmer, when do you say, "I'm not jumping?" What are you going to do if there are more people than you have room for? Does the swimmer stay in the water? Remember guys, you're on the same team, work as one, as if your lives depended on it. They could.

Remember the Boy Scout motto: Be Prepared. When they call "Man overboard," or "Aircraft in the water," it's too late to come up with a plan. ◄

AWH2 Robinson is a SAR crewman with HSL-34.

A Chain of Misunderstandings

By Cdr. Semih Aygun, Turkish Navy

THIS story comes from the CO of a Turkish Navy S-2 squadron.

In our CV/LSO issue (October 1988), we published a story from an Argentine Navy S-2 pilot. Our ejection issue (November) carried a personal account from an RAF Harrier pilot in the Falklands.

We hope this trend continues and encourage increased participation by our non-U.S. readers. While intended primarily for the U.S. Navy and Marine Corps, Approach is proud of its international audience. We welcome input from any military aviator, whatever his nationality (Ivan, you, too) with a safety lesson for all of us. — Ed.

The weather was good at NAS Topel. In addition to our intense operational schedule, we were also conducting a regular training schedule. I was working in the squadron spaces when the telephone rang at 1235. Some of my aircraft were in the air. I answered the phone and the tower operator told me that a Tracker had landed with one prop feathered. The pilot shut down the remaining engine right after touchdown, on the first half of the runway. Since the pilot hadn't called the tower, the operator didn't know what the problem was.

I quickly went out to the runway where I saw the fire truck, crash vehicle and ambulance near the aircraft. Fortunately, there was no significant damage to the Tracker, and the crew was in good condition. There were only two differences between this S-2 and the other squadron Trackers parked comfortably in their bays: where this S-2 stood and her feathered left prop.

The pilots and I went back to the spaces and began to talk about their emergency. I was curious, especially since there seemed to be something unusual about their procedures. As the CO, I must have had a premonition about the emergency before the aircraft landed, and I was thinking that something had gone wrong in the crew's reaction sequence.

This was the 10th training flight for Ltjg. Alevcan after he graduated from flight training. His instructor, Lt. Askin, had over 2,000 hours in the S-2. In the middle

Below, an S-2 lands at NAS Topel
Right, Lt. S. Askin (l.) and Ltjg. S. Alevcan (r.) in front of their S-2 after their safe recovery.

of the flight, 15 nm northeast of NAS Topel, they shut down the port engine at 4,000 feet for single-engine training. Right after the crew secured the engine and feathered the propeller, the starboard generator failed. Their attempts to reset the generator were unsuccessful.

Now they faced a complex emergency including the real loss of an engine, loss of electrical power, loss of communication systems and the loss of their flight controls. In the S-2E, if electrical power is lost, so are the communication and navigational systems, trim tabs, sensors, rudder trimmer and the single-engine rudder assist system. When the single-engine rudder assist system fails, you have to maintain coordinated flight with heavy rudder pedal pressure, which most people cannot do for any length of time. Evaluating the situation, the two pilots decided to land as soon as possible. Descending from 1,500 feet, they began their approach.

When the crew in the tower first saw the S-2 approaching the base without any communication, they knew the aircraft probably had a problem. They called the aircraft, saying, "If you read, please dip your wings." Of course, the aircraft did not respond. However, a few seconds later, the pilots dipped the S-2's wings in an effort to catch the tower's attention and declare their emergency. The local airbase instruction manual called for this action, but it started a chain of misunderstandings.

The tower chief now thought the aircraft had, indeed, heard him. But since there had been no response, he thought the S-2 merely had transmitter problems. He also did not realize that the port propeller was feathered and the anti-collision light was not operating, which would have told him there was at least an electrical problem.

The pilots planned their approach for runway 27, which was the active runway. When they entered the break, the anxious aircrew saw that the windsock indicated an easterly wind. The landing direction had to be changed. They then entered downwind for runway 9, which only added to the confusion because the tower operator, still thinking the Tracker could hear him, was just then telling the crew to land on runway 9.

The tower next told the crew to make sure their landing gear was down and locked, and that they were cleared to land. He couldn't see the Tracker until it was halfway through the base leg. Later, he called the aircraft and told the crew to turn on their taxi light if they had other problems. Of course, during the day, no taxi light came on, and the operator assumed everything was fine. But, when he saw the feathered left prop, his heart stopped. Fortunately, the S-2 landed safely.

This incident was one of the most critical emergencies our squadron has experienced since it was established in 1971, and it was the only such incident with this much confusion and misunderstanding. ◄

Cdr. Aygun is the CO of the Turkish Navy's 301st Air Squadron, and is a longtime reader of Approach.

Attention, Action Men!

By Lt. V. Warrington, Royal Navy

ARE your batteries fully charged and in good shape? Not sure? In that case, you may be one of the growing number of aviators carrying spare batteries for the PRC-90 radio or night vision goggles (NVGs).

A good idea? Well, it always helps to think ahead and be prepared. It probably gives you that warm, fuzzy feeling knowing that you leave nothing to chance. Be careful. It could soon be something else giving you that glowing feeling.

Recently, a pilot was talking in the ready room when his left breast pocket exploded! He had been carrying an NVG battery in his flight suit breast pocket, along with a wallet, a quarter, a dime, a nickel and a few pennies. The battery was shorted by the loose change, which caused a thermal runaway. The battery did not have a proper venting outlet.

The result was a bang, flash and a smoking "Action Man." Luckily, there was no permanent damage, but what would have happened if he had been airborne? Noninsulated batteries are a documented hazard, and battery manufacturers specifically warn against carrying loose batteries.

If you need a spare, carry it in a plastic bag. Remember, although safety is the responsibility of the individual, some hazards are not obvious. Safety officers, make sure you brief your aircrew on the danger of lithium and mercury batteries.

Lt. Warrington is serving an exchange tour as the Aviation Life Support Systems officer for the Naval Safety Center. As an enlisted commando aircrewman he flew in the Westland Wessex helicopter for 10 years before being commissioned.

I Didn't Know

By HM1(PJ) J.K. Falkenberry

HOW many times have you or your schedules officer called your local physiology training unit (PTU) looking for a quota, only to find there was none available, even though you've called three months before your current quals' expire? Your cruise starts in September, but you've put yourself in a tight spot when you call in June. With all the work-up and pre-deployment commitments, it's difficult to schedule the physiology training. But, 12 months prior to your expiration date is not too early to start planning, especially if you have a cruise in that period.

Another common problem is reporting for training and finding out that without a health record, you can't be trained. OPNAVINST 3710.7M, Paragraph 830 (4) says that any time you report for physiology or water survival training, you shall deliver your health record to the training site for screening. It's also required that all personnel participating in dynamic training "shall have a current flight physical and an aeromedical clearance notice (up-chit)." But, you say, Medical shipped your health record out on det, they've lost it in physicals (AVR) or it's on the boat, which doesn't pull in until tomorrow.

First, the squadron corpsman should be talking to the squadron Ops Department to find out who's going on det. Ops, in turn, should know what other commitments might affect det personnel. The schedules/training officer is the right person to make sure the communication works both ways. Maintaining these quotas can, in fact, take precedence over the det because without the training, you would be flying in violation of NATOPS, and most COs would not like that.

Second, if your health record was lost during your physical, the flight surgeon can issue an up-chit specifically for the training saying, "Health record misplaced." Training sites will usually accept this. The on-site physiologist still decides who receives training, and can override or question any up-chit, for example, in the case of a person in an "up" status who reports for training with a cold, or who has recently self-medicated.

And third, if your record is on the ship, you must coordinate this problem through your squadron corpsman, flight surgeon or operations department. If you know you are scheduled for training, you should make sure that you have your record in hand before leaving the boat.

There are some rare cases in which a PTU just can't give you a quota when you need it. What do you do? Try another PTU. There are 13 training sites in the U.S. (See the list at the end of this article.) In some cases, they are close to one another, i.e., San Diego, El Toro, Point Mugu; and although it may mean TAD, you can still get the training.

Another alternative is to call other squadrons in your area. They may have quotas for people who don't need the training as urgently as you, and they may be willing to give you one of their seats.

In short, the easiest way to save yourself and other members of your squadron, not to mention the PTU scheduling office, a lot of headaches is to plan ahead. Remember, Aviation Physiology and Water Survival Training is *not* like a flight physical; it doesn't have to occur within 30 days of your birthday. You know four years in advance when you have to requal. OPNAVINST 3710.7M, article 830 discusses additional requirements for refresher training. If you start working 12 months in advance, getting the training you need, on the date you want, should be easy. It's those people who put it off or "just didn't know" who have problems. ◄

HM1(PJ) Falkenberry is assigned to the Aviation Physiology Training Department at NAS Miramar.

Physiological Training Units

Barbers Point, Hawaii
AV 684-4149/7340*
Comm. (808) 684-

Brunswick, Maine
AV 476-2164/2929
Comm. (207) 921-

Cecil Field, Florida
AV 860-5408/9
Comm. (904) 778-

Cherry Point, North Caroline
AV 584-4933/4
Comm. (919) 466-

Corpus Christi, Texas
AV 861-3940/2632
Comm. (512) 937-

El Toro, California
AV 997-3112/3758
Comm. (714) 651-

Jacksonville, Florida
AV 942-5366/3911
Comm. (904) 772-

Lemoore, California
AV 949-4388/9
Comm. (209) 998-

Miramar, California
AV 577-4158
Comm. (619) 537-

Norfolk, Virginia
AV 564-4544/1329
Comm. (804) 444-

Okinawa, Japan
AV 634-1967/3422*
Comm. 011-81-98938-1111

Patuxent River, Maryland
AV 356-1513/4
Comm. (301) 863-

Pensacola, Florida
AV 922-2141/2
Comm. (904) 452-

Point Mugu, California
AV 351-3804/8871
Comm. (805) 989-

Rota, Spain
AV 727-2253*
Comm. 011-3456-828253

Whidbey Island, Washington
AV 820-2304/6
Comm. (206) 257-

*To reach these numbers you need to call the overseas operator, give the unit's number and your priority autovon code, or call the commercial line and give the operator the unit's number.

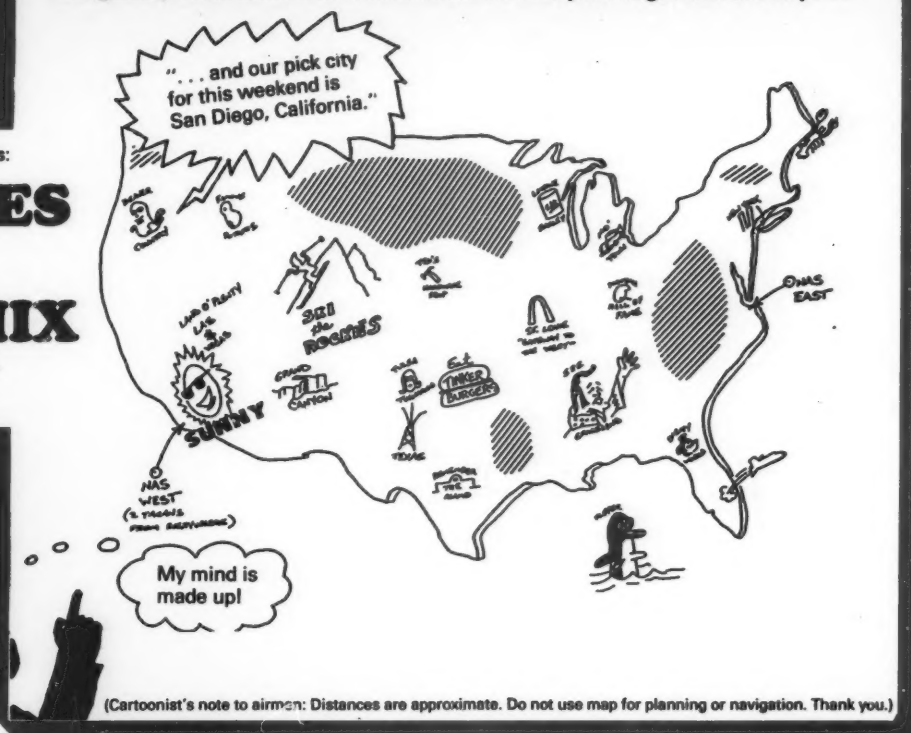
Mooch with help from Hey Joe presents:

BROWNSHOES IN ACTION COMIX

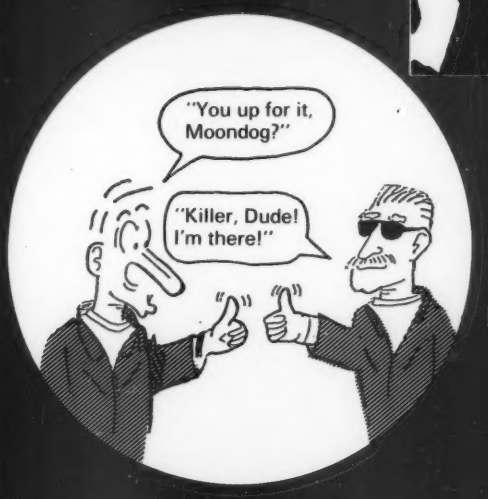
"The kind real aviators like"

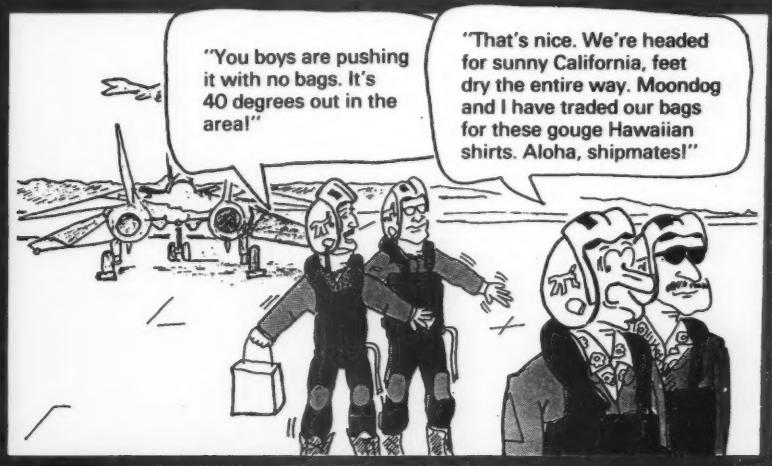
Contributed by Lt. Ward Carroll

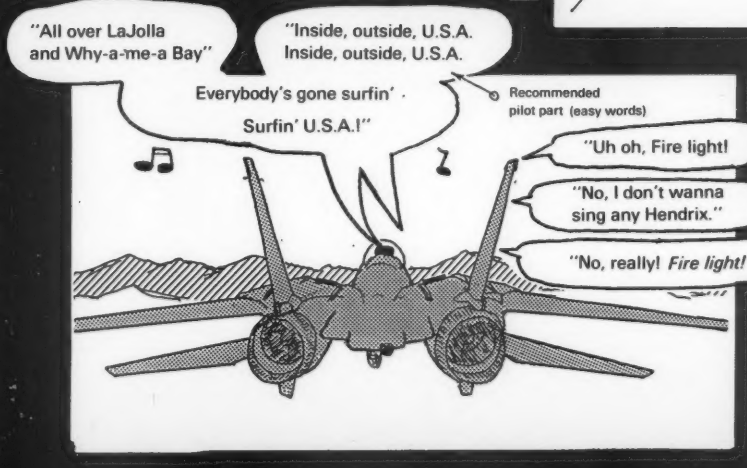
Dangerboy brainstorms on a destination for his upcoming cross-country . . .

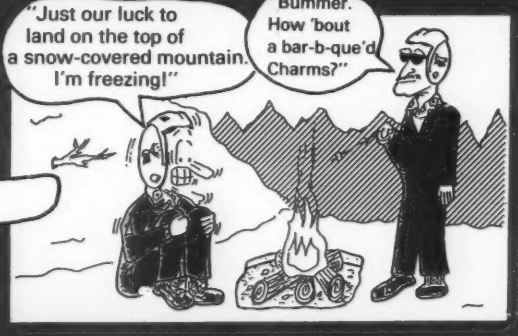


(Cartoonist's note to airmen: Distances are approximate. Do not use map for planning or navigation. Thank you.)









Preflight your seat as if you were going to buy it.

Ask the man who owns one.

Poster idea contributed by LCdr. Rick Morgan, VAQ-129